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Flow Visualization
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This is the second cloud image taken for Flow Visualization at the University of Colorado at Boulder. Capturing a variation of cloud types in one shot was my goal.

I took this picture in Boulder, Colorado during the afternoon of Saturday, April 10. It looks west at an elevation of approximately 5,400 ft.

Saturday broke a period of unstable atmosphere indicated by rain and snow earlier in the week. The skew-T plot shows stable atmosphere in Denver for both times surrounding the image. Figure 1 shows the skew-T for 6 am. The clouds look to be cumulus humilis and cirrus type. However, the stable atmosphere suggests an alternative cloud formation at about 6,700m. If this cumulus humilis cloud captured in my image was not caused by unstable skies, it likely formed as air was forced to climb the flat irons. Figure 1 also shows that clouds would not be expected in the cirrus range of elevation. It is more likely a cloud evaporation phenomenon caused

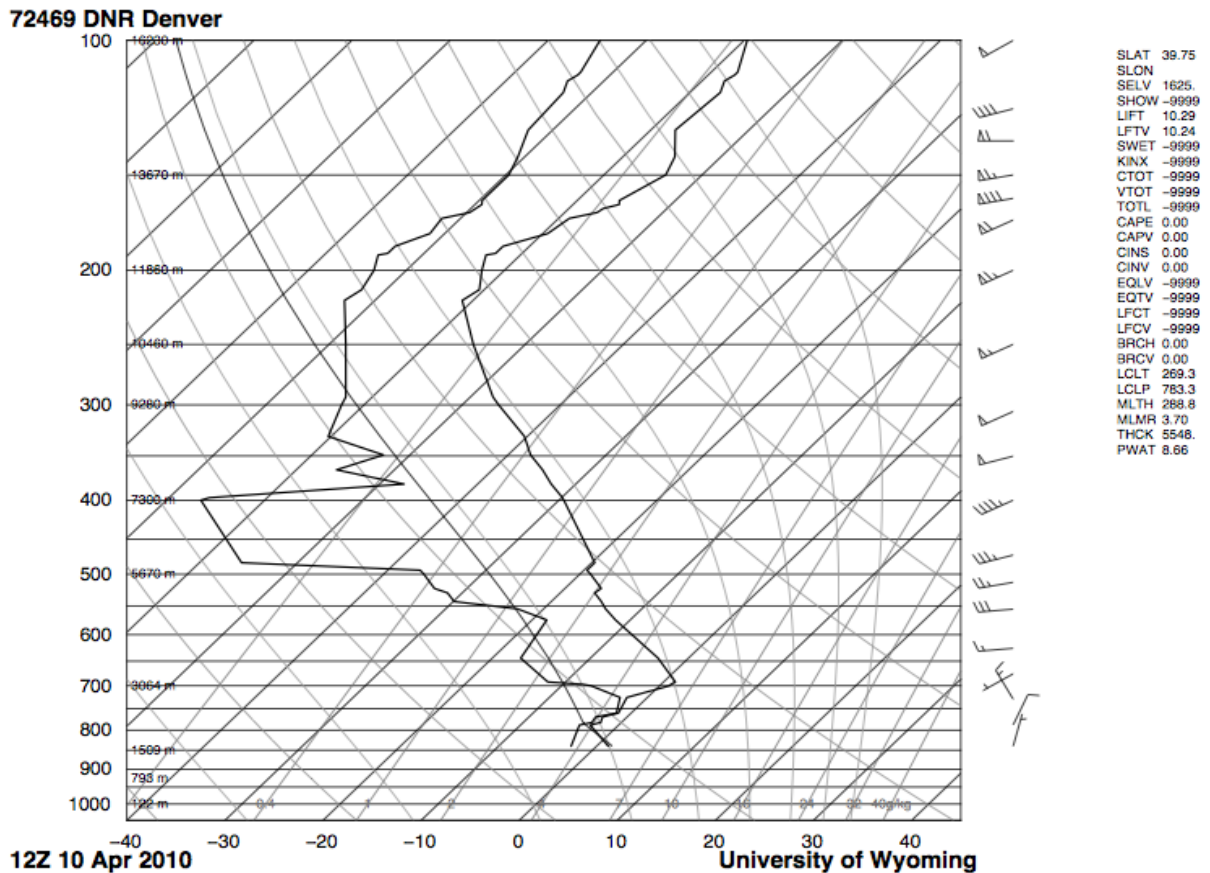


Figure 1. A skew-T diagram for Denver, Colorado at 6 am on Saturday, April 10 shows stable atmosphere.

by the cloud below. Boulder was mostly cloudy with winds of 5-10 mph at the time of the image.

The image is approximately 200 ft wide with a lens to cloud distance of 5,000m. The image was taken with an exposure time of 1/500, an F-number of 16, and a focal length of 17.9 mm. A Canon Power Shot SD780 IS digital camera captured this picture. The final image had dimensions of 640 × 480 pixels because resolution must have been lost in a data transfer process. I used Iphoto to increase the exposure, sharpness, and contrast as well as bring out more blue color in the sky.

I like the color of the sky and the contrast of the two clouds. The resolution could be greatly augmented to improve the detail of the image, and a higher perspective would help reveal the physics captured in the image. This image was successful in showing a variety of physics.